

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A device for positioning and controlling rail vehicles (4) ~~including~~ comprising:

fixed stations (1) comprising a first signal transmission—reception means transmitter and receiver (2); and

a central control station (3) to which are connected the fixed stations (1) and controlling a transport zone,

~~characterised in that~~ wherein,

each rail vehicle (4) comprises second signal ~~transmission—reception means~~ transmitter and receiver (6) containing a specific identifier of a transmitter and at least one message,

the signals transmitted by the first ~~transmission—reception means~~ transmitter and receiver (2) of the fixed stations (1) contain a specific identifier of the transmitter and at least one message,

the central control station (3) sends rail operation control orders,

each rail vehicle (4) and each fixed station (1) ~~include—processing means~~ processor (8) for determining the identifier and at least said message of each signal received,

the signals of the first and second ~~transmission—~~
~~reception means—transmitter and receiver~~ (2, 6) are non-sinewave
radio signals with a very large passband whereof a frequency
spectrum ranges between 1 and 10 GHz.

2. (currently amended) The A-device according to claim
1, ~~characterised in that~~wherein each rail vehicle (4) ~~includes on~~
~~the one hand,~~ comprising:

a first means for determining processing lane of the
first and second transmitter and receiver (2, 6) determines the
position and the direction of said vehicle in the transport zone;
and ~~on the other hand,~~

a second means for determining processing lane of the
first and second transmitter and receiver (2, 6) determines an
actual speed measurement of said vehicle, eac of a first and
second transmitter and receiver ~~said means receiving~~ receives
signals from the ~~processing means~~ processor.

3. (currently amended) The A-device according to claim
1, ~~characterised in that~~wherein each rail vehicle (4) ~~includes~~
~~means for detecting~~ comprising:

a third processing lane of the first and second
transmitter and receiver (2, 6) determines passive obstacles or
other vehicles on lanes receiving signals from said ~~processing~~
~~means~~ processor.

4. (currently amended) The A-device according to claim 1, ~~characterised in that~~wherein a localisation in the transport zone, a speed and direction of each rail vehicle (4) are determined on the one hand, and a detection of obstacles is realised on the other hand, in real time and simultaneously.

5. (currently amended) The A-device according to claim 1, ~~characterised in that~~wherein said specific identifier is obtained by pseudo-random encoding.

6. (currently amended) The A-device according to claim 1, ~~characterised in that~~wherein the rail operation control orders transmitted by the central station (3) include navigation instructions of at least one rail vehicle (4).

7. (currently amended) The A-device according to claim 6, ~~characterised in that~~wherein said orders comprise a communication for said rail vehicle (4).

8. (currently amended) The A-device according to claim 1, ~~characterised in that~~wherein the central control station (3) includes a processing unit for centralising and processing the data sent by the fixed stations (1) and ~~means for~~ displaying said data on a screen in real time.

9. (currently amended) The method for positioning and controlling rail vehicles including fixed stations (1) comprising first signal ~~transmission—reception means~~ transmitter and receiver (2) and a central control station (3) to which are connected the fixed stations (1),

~~characterised in that~~wherein,

each rail vehicle (4) comprises a second signal ~~transmission—reception means~~ transmitter and receiver (6),

a specific identifier is determined for each of the first and second ~~transmission—reception means~~ transmitter and receiver (2, 6), said signals being non-sinewave radio signals with a very large passband whereof a frequency spectrum ranges between 1 and 10 GHz containing said identifier and at least one message,

for each of the signals received by the fixed station (1) and by each rail vehicle (4) the identifier and at least said message of this signal are determined by ~~processing means~~ processor (8),

rail operation control orders are sent by the central control station (3).

10. (currently amended) The A-method according to claim 9, ~~characterised in that~~wherein a transport zone controlled by the central station (3) and wherein the rail vehicles (4) are displaced, is divided into a grid of points defined by the repetition of a same elementary mesh of length D.

11. (currently amended) The A-method according to claim 10, ~~characterised in that~~wherein the length D of the elementary mesh is set typically to several hundred metres.

12. (currently amended) The A-method according to claim 11, ~~characterised in that~~wherein rail operation control orders are sent by the central control station (3) to each rail vehicle (4) so that a single vehicle (4) is included any time over the length D.

13. (currently amended) The A-method according to claim 11, ~~characterised in that~~wherein rail operation control orders are sent by the central control station (3) to at least two rail vehicles to conduct a rendezvous manoeuvre over the length D.

14. (currently amended) The A-method according to claim 10, ~~characterised in that~~wherein the length D of the elementary mesh is variable with time.

15. (currently amended) The A-method according to claim 14 ~~characterised in that~~wherein the length D of the elementary mesh is determined in real time from the signals transmitted by each rail vehicle (4), said length being at least equal to the safety distance D_{\min} between each vehicle, the central station (3) sending rail operation control orders to each rail vehicle (4) for keeping said distance D between each vehicle.

16. (currently amended) The method ~~Method~~ according to claim 9 ~~characterised in that~~wherein passive obstacles on lanes are determined by the second ~~transmission—reception means~~ transmitter and receiver (6) and for each rail vehicle (4) in motion.

17. (currently amended) The A-device according to claim 2, ~~characterised in that~~wherein each rail vehicle (4) ~~includes~~ comprising: means for detecting

a fourth processing lane of the first and second transmitter and receiver (2, 6) determines passive obstacles or other vehicles on lanes receiving signals from said ~~processing means~~ processor.